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ART. 124.—*The Apple Orchard.*—[From Wilson's Economy of the Kitchen-Garden, the Orchard, and the Vinery.]

The apple, we consider to be a fruit of far superior value to that of any other kind in the known world. It is, among fruits, what the garden rose is among flowers, far exalted above every other competitor; and, like that unrivalled queen of beauty, too often suffered to languish in that degree of esteem, which is ungenerously lavished upon some butterfly elegance, that glitters for a moment in the golden sun-beam, but soon forsakes us with the departing ray. The cheering grape is sweet and palatable, and its juice, perhaps the finest cordial in the world; the luscious peach, the pear, the cherry, and the plum, are all delightful in their seasons; but, compared with the apple, they are all insignificant and transitory. Our vigorous yeomanry are regaled with a juice from the apple, that freemen only are worthy to partake of. Their hardy sinews, and their well braced nerves, need not a cordial, and they drink the manly beverage, that is not fit to be diluted by an insipid medicine.

The orchard ought to be the pride of America. It is a most pernicious impediment to every improvement, for the operator to have his mind impressed with incorrect views of the value and importance of the object he labors to accomplish. Who can calculate the value of that produce, which the apple orchards of America can and no doubt soon will be capable of producing. They have long ago yielded the Spitzenburghs, the Newtown Pippins, the Montrose Pippins, the Bell-flower, the King Apple, the Harrison Apple; and a great many other most valuable apples have all originated in America; and it is certain, that no country in the world possesses a more congenial climate for the cultivation of the apple than that of the eastern and middle States. And this section of the country is, and has long been well supplied with apples and cider. The inhabitants have been well satisfied with the great success that has attended their cultivating this fruit—and, perhaps, no man more so, than the reader's humble servant.

But before we proceed to give any directions for he management of our apple trees, we would inquire of our reader of what sort of apple trees his orchard consists. Whether he has any of the early Bough apple; and whether he has any of the Princes and other excellent harvest apples; or if he had an opportunity of seeing the invaluable observations of Mr. Cox, of Burlington, New Jersey, on fruit trees. This is a work that ought to be in the hands of every American farmer. It contains descriptions of one hundred and thirty-three different kinds of apples. A select list of twenty-six choice sorts for table use, and another list of fourteen sorts of the best cider apples. Considerable numbers of new sorts have been introduced from Europe since Mr. Cox wrote his book; but as his lists are made up of trees judiciously chosen, all proved most appropriate for this country, from actual cultivation on his own estate, we think we cannot do better than transcribe the same list here, without either adding or retrenching from it until farther and equally well grounded experience can justify its enlargement.

Table Apples.

1. Junating, ripe in June and July.
2. Princes Harvest, July.
3. Bough, do.
4. Summer Queen, July and August.
5. Early Pearmain.
6. Summer Rose.
7. Codling, August and September.
8. Maidens' Blush, September.
9. Hogloe Crab, table & cider.
10. Cataline, do.
11. Romanite, or Rambo, September and October.
12. Tall Pippin, October.
13. Doctor Apple, do.
14. Wine, Oct. and Nov.
15. Late Pearmain.
16. Burlington Greening
17. Bellflower.
18. Newark Pippin, Nov.
19. Pennock, do.
20. Michael Henry, do.
21. Spitzenberg, do.
22. Newtown Pippin.
23. Priestly.
24. Homme d'Apis, or Lady Apple.
25. Carthouse.
26. Tewksbury Winter Blush.

Cider Apples.

1. Hews' Crab.
2. House or Greyhouse.
3. Winesap.
4. Harrison.
5. Slyre.
6. Roan's White Crab.
7. Gloucester White.
8. Redstreak.
9. Campfield.
10. American Pippin.
11. Golden Rennet.
12. Hogloe Crab.
13. Cooper's Russeting.
14. Buckman's Pearmain.

The reader, by comparing the above list with the collection of apples in his own orchard, will be enabled to judge how near they correspond with the

best sorts; and what improvements he can make by future arrangements. If he finds that many of his trees are of inferior sorts, he ought to commence the establishment of a new orchard, and get it stocked with none but the very best sorts of fruit. His present trees may be taken good care of, till the new orchard comes in bearing, and then cleared off. He who has his orchard to commence, should make the selection of his trees from the above list; or, if it should be on a large scale, he might add a considerable number of other very good sorts.

The first thing in commencing an orchard, is to fix upon an eligible situation; and this, in most instances, may be easily determined upon—for it is by no means a shy tree to grow, and thrives well on any ordinary good kind of farm land. Even on stony and rocky ground, not well adapted to other crops, the apple generally succeeds well, and produces good flavored fruit.

Neither very low, wet soils, nor dry, sandy knolls, are to be employed, where any of a medium kind can be selected; but no man, that has a farm, should be without an apple orchard. Low grounds, in most cases, are susceptible of being remedied by draining, and good deep culture with the plough and harrow; and even sandy soils may be improved by strong composts.

It seems of little importance to the growth of the trees, what the aspect of the ground may be. Our north-west winds are sometimes very heavy, but they are commonly dry, and no situation escapes their fury; our north-east and east winds, too, are often boisterous, and accompanied with heavy rains, that prove injurious, sometimes, to orchards, in the month of May. A wide, open exposure, is as good as any; and, on all elevated situations, the south side of the ground may be preferred—but I would never scruple extending the trees around all its sides, if necessary.

The next thing to be done, after determining upon the location, is to prepare the ground for the reception of the trees, and this is a thing of great importance. Most people, when they conclude to plant out an orchard, are anxious to procure the trees, and get them out as soon as possible; and, if the soil should not be in that condition they wish it, still the trees must be set out, so that they may be coming on while the ground is to be improved amongst them afterwards. But this is not a good method for accomplishing the end they have in view, of accelerating the future growth of their trees. If their ground is not in the very best order for receiving them, and they should be impatient of being masters of the right quantity required, they had better select and have that quantity, to remain for one year in the nursery, and improve the ground well during that period; for one year's improvement of the ground, previous to its being planted, is worth half a dozen of years' labor on the ground, after the effectual operations are impeded by the trees. It is true, the ground near the rows can be improved nearly as conveniently as before; and, for the growth of the trees, after their roots extend some distance, will be equally useful: but it is those lines on which the trees are arranged, and not the ground at a distance, that require the most uninterrupted and effectual culture, which ought always to be thoroughly executed, before a single tree be introduced.

Where manure can be obtained, the ground ought to get a good dressing all over it. At any rate, ridges of six feet in width, along where the rows of trees are to be planted, should be manured, and well cultivated, during the seasons previous to setting them out; and in the season of preparation, a crop of potatoes may be raised on the ground.

The six feet wide ridges, where the trees are to be planted, should get at least one deep ploughing in the fall, after the potatoes are taken up; and in the spring, as soon as the ground is fit to labor, give your ridges, or all the ground, a very deep ploughing, and a good harrowing. Line out the rows where your trees are to be planted, and mark the site of every one by driving down stakes, where the holes are to be dug.

The distances between the trees are often varied from twenty to fifty feet. Perhaps a medium, between the two extremes, will generally be the best. The depth and size of the holes ought to be regulated according to the dimensions of the roots of the trees to be planted; and, for this reason, it is well to procure the trees, and bring them on the ground, before digging the holes; but instead of laying them down upon the ground, a hole should be dug, two or three feet in diameter, and two spits deep: fill this hole half full with water, mix the loose earth you throw out with water, until it come to the consistency of molasses; souse the roots of the trees well in this, and trench them all in close together, with their roots well covered over with earth. Then proceed to dig the holes, of such diameter as will admit the roots, all regularly spread out freely, without touching the edges. If the soil be naturally good, to a depth of two feet, eighteen inches will be enough to throw out—and the bottom should be well loosened by digging, the depth one spade more. Should the bottom strata not be good, the lower spit should be thrown out, and its place supplied from the surface soil.

In proceeding to plant out the trees, no more of them should be taken from their place of deposit, at once, than can be planted before their roots become

dry. At least two hands are necessary to plant; one to hold the tree in its proper position, and the other to turn in the earth around the roots, which should be a little raised up, and shook by the holder, in the act of filling in the earth. When the hole is about two thirds filled, the earth should be neatly trode all around with the foot, and the upper part finished with loose earth to the common surface level. The tree, thus planted, should stand very little deeper than it did in the nursery.

The ground should be all well cultivated around them, for several years, in green crops of any kind, that admit of ploughing or hoeing amongst them, until the trees get strong and well established.

Various opinions are entertained respecting the most proper size at which the trees should be allowed to arrive in the nursery, before being set out in the orchard. Most people are fond of having them too large. Perhaps there is no better rule, than to make the selection of trees which have had two years' growth from the graft or bud. At any rate, they should not have more than three—in which case they should be ten or twelve feet high, if thrifty, and if not, should not be chosen at all. Any irregular shoots should be cut close off, at the time of planting, but none of the tops of the limbs shortened.

During the first year or two after planting, the the trees should be carefully examined, after severe storms: and, where any are observed loosened at the root, or swayed to one side, they should be righted, and if necessary, supported with stakes.

The next thing of importance to be attended to, in the management of the trees, is pruning. This is an operation by which either much good or mischief can be done. By judicious application, both the growth and fruitfulness of the trees may be promoted; but, if done improperly, fruitfulness may be diminished, and the production of shoots increased to the detriment of the tree. The general ideas associated with the word prune, are either incorrect, or the word is itself improper. Whoever employs his knife, or other instrument, to detach a limb from any part of a tree, is generally said to prune it; and if the point of a limb, or any part of it, be cut off, it is said to be pruned. But the effect upon those parts of a tree that remain, after these operations are performed, are extremely different. In the first instance, those parts that are left, obtain an additional supply, more than they had before, in proportion, or nearly so, to the size (we do not mean branches) or number of limbs detached; but, in the latter, they are deprived in a similar ratio to the increased vigor or number of shoots that arise in the shoot only shortened. The manner in which these different effects are produced upon the tree, by these different operations, is extremely obvious. In the first instance, the limb being completely detached from that part of the tree where it had its origin, nothing remains there to receive that portion of sap that went to its support—and it is, of course, circulated and carried along, in addition to the former supply, as it passes to those superior parts of the tree that remain, and is added to their support. But, in the latter, the origin, and part of the branch being left, receives its wonted supply: the dormant buds are swollen, expand, and strive to keep up the wonted equilibrium—which no one, at the first, being able to maintain, numbers of them volunteer their willing services, and, instead of one shoot, many are commenced. But here the evil stops not. Each shoot increases with an emulous activity; and the same proportion of sap that supported the original point cut off, becomes scarcely sufficient to support a single individual of the new race; and then, the wonted supply of sap that went to support the other parts of the tree, becomes diminished, by being attracted, along with the original proportion, to that now most active, although useless, section of vegetable life. If a single limb, thus managed, be capable of deranging the circulation so much, through the whole tree, what must be the injurious effect of having, perhaps, one half of their limbs thus pruned, unless a supply of wood be the object.

As to the general arrangement of the heads of his trees, they ought never to be suffered to grow like a crow's nest. From the very commencement of his orchard, he ought to watch the progress of their formation. In choosing his trees, at first, in the nursery, he ought to select such as are furnished with two or three main leading shoots, on opposite sides of the head of the tree; and, so long as their future progress is continued in nearly equal proportions, he must keep his knife in his pocket. To whatever part of the tree the sap may appear to be enduly directed, by a superabundance or luxuriance of shoots from such parts, he will understand, by the above observations, that these shoots are not be shortened, but to be thinned, or cut off entirely; and whatever part of the head of the tree may appear deficient in receiving its due proportion of sap, by a deficiency of shoots, some of the shoots, situated nearest to such places, should be shortened; and, in this case, the new progeny, that arises around the end of the shoot, near where it is cut, are valuable—as one or two, if necessary, of the strongest, should be permitted to fill up those places that require it, but all the others should be rubbed off.

As to the height at which the head of the tree should commence, this is generally determined in some measure by its treatment in the nursery. For these, its leading shoots, should be rather low than too high—as the main head should always be eleva-

ted by trimming off the under lateral shoots from the leading or main branches to the height desired. But at whatever height the head is once formed, there is no way of lowering it by cutting off the whole at the height required in the main stem; an operation the necessity of performing which should always be avoided in selecting the trees from the nursery. Where the ground is intended to be labored, it is certainly necessary to have the heads formed so high that a horse can pass under them freely. And this is perhaps the best height to have them performed generally. If they are much lower, especially in damp situations, the effluvia from the soil is apt to injure the fruit, and if much higher, they become more exposed to the violence of the winds. As to the distances at which the branches on the whole head of the tree ought to stand from each other, it is necessary to observe a mathematical precision in this arrangement. But whoever wishes to obtain superior fruit, ought to give the whole plenty of room. Every body can see where they rub against or interfere with each other; and in that case ought to use the knife, the saw, or the chisel, freely, by thinning entirely a liberal portion of the superabundant limbs.

In all cases we would advise rather to cut out a greater quantity of smaller branches, than to amputate a large one, as the wound made at its origin might injure that part of the original branch from whence it is to be cut, and most people would rather prefer cutting out a few more in quantity, than be at the trouble of preparing and applying some kind of a plaster over a large wound.

Great art and skill have been exhibited by vegetable quacks respecting the miraculous effects to be produced by some wonderful complicated mixture. And yet a little fresh cow dung, with a piece of bladder or cloth tied over it to prevent its being washed off by the rain, is perhaps as good as any of them. In orchards of old trees that have not been carefully managed, their trunks and limbs frequently become covered over with moss and other parasites, by which, although they may continue to live in that state, for many years, they can never thrive or produce good fruit. If these are of good kinds, they may be greatly renovated by proper treatment; but unless the kinds are very good, it would be useless to expend labor upon them. Their trunks and main branches should all be well scraped with some thin-edged iron instrument, so as to divest them of all their outside rough scaly bark, which is, in scientific language, styled the epidermis, and which is considered of use only in defending the inner part which is more soft and smooth. It is of essential service in carrying on the circulation of the sap, and ought not to be injured, but should be well washed all over with strong soap suds. All rotten or decayed limbs should be cut off, and a partial topping of the main branches performed in order to obtain a production of new and healthy shoots, or the whole of the main branches may be cut off at once, within a few feet of the trunk, and almost all the young shoots that are produced from them, allowed to grow for the first season, as the ordinary supply of sap that used to support the whole of the old head will be more than a single small young shoot from each main branch could admit; and by being thus checked would be of more injury than the multitude of young shoots, which should only be thinned out gradually until a regular number only are left us from a new head, which, if the trunk be sound, is formed generally in fine style in a very few years; although this last method of topping the tree all at once, often succeeds. Yet it is the safest way to do it about one half the first season, and the other half the one succeeding. It is seldom that any of these young shoots that are produced from the roots of the main branches require to be topped. And they should be thinned out gradually to good distances from each other, as they soon produce secondary branches that require room. The bark of the trunk and main branches should be scraped and washed eve spring and fall, as directed above. And if the ground around the trees could be well manured and broken up and cultivated, the orchard might continue to grow and thrive for many years. The keeping clear the bark of all the trees from the time of their first setting out, by washing them every spring and fall with soap suds, is of great advantage, by softening the bark, and by that means accelerating the passage of the sap in its circulation, as well as in destroying the eggs of insects, and preventing the generating of moss or other parasites. The suds should be made strong, and the bark well cleared and saturated therewith by means of a scrubbing brush. Some apply soft soap, undiluted, all over the bark, which is said to be more beneficial than the suds. If the growth of the tree be promoted by the softening and saturating of the bark by its absorbing the lixivium, we see little objection to applying it by means of the brush in that state. It is true the merely wetting the bark by the suds could be of no great benefit; but it ought to be so applied with the brush by means of some labor, and light and repeated rubbing, that the bark may receive a liberal portion of it. The practitioner, however, ought to try both, and continue that which he finds most beneficial.

There will never be a failure of good vegetables in any garden if the following requisites be well regarded. Richness of soil; due care in the selection of seeds; proper cultivation; and a sufficient variety of vegetables, that if one kind fails, another may be a substitute.

ART. 125.—*Experiments on Sowing Wheat relative to Smut.*—[Addressed to the Editors of the New-York Farmer and Horticultural Repository.]

GENTLEMEN: When we consider the importance of whatever relates, or may be conducive to the interests of Agriculture in this extensive country—a country, which, from its varieties of climate and soil, and its facilities of internal communication, may be said to stand unequalled in the world; and more especially when we take into a count the powerful inducements that have been held out, and the eloquent appeal made, by the Agricultural Board of the State, to bring forward improvements in the culture of wheat, the finest and most nutritive of all grain; one is apt to wonder that so little has been said or done on the the subject, and that New York is still not the foremost State in the Union in the production of fine wheats.

Nothing surely can be more meritorious than to endeavor to investigate the cause of any sort of failure of crops, in order that the best remedies may, of course, be invented for the cure of the diseases from which such failure is derived. Of all diseases to which wheat is liable, smut is certainly the most pernicious; for, independently of the mischief done the crop by destroying the quantity, to the amount sometimes of one half of a field's produce, the remainder, although ever so good and plump grain, will unquestionably be so far deteriorated in quality as not even to be marketable without great pains and expense incurred in washing, &c., yet after all this is done, will still make but very inferior flour.

Feeling the importance of every thing connected with the wheat culture of this great state, & how deeply its interests are affected by a proper care of its cultivation as a principal staple commodity of the United States, I most willingly contribute my mite of information through your valuable Repository, detailing a series of experiments, with their results, made in 1826 and 1827, to ascertain the different causes that may produce smut; also, how far washing with pure water, and drying with or without powdery lime, go to prevent the disease; and whether the use of sea-salt (muriate of soda) is not to be preferred to simply washing with water.

Although it has been conjectured that other substances than the particles of smut will produce that disease in grain, yet a regular series of experiments to prove the theory, had never met my eye. There is no doubt, when the dust or small particles of the smutty balls are examined with a microscope, they have the very same appearance as the other substances experimented on, excepting a small difference of color, which may have been owing to an exposure to different degrees of light. But how far the chemical analysis of the dust of seeds of the *Fungus lycoperdon globosum* (puff balls) and that of *mucor* (mouldiness) are similar to that of the dust or particles of *ustilago*, (wheat smut,) I have never had an opportunity of knowing. However much it may be of consequence to the curious in vegetable physiology to ascertain whether this disease originates from some inexplicably nice inoculation of the minute seeds of fungi on the germinative part of the grain used for seed, or from the insidious effects of minute insects, (animalculæ,) it can be but of little consequence which of them, to the practical farmer, since the effects are the same, and when the knowledge of a preventive has once been obtained.

These experiments were all made with the greatest possible care, being aware of the caution necessary to prevent the clean specimens from receiving hurt from those that were foul; so that there need be no doubt of the accuracy either of the sowing or the reaping. They were made on a vacant ridge of land that stood in the midst of a large breadth of sown wheat, which was green on the surface when these were put into the ground.

No. 1. Was sound good white wheat, and free of smut, sown 20th Nov. 1826, unwashed. The result of this specimen was, in 1125 stems, only 8 were smutted.

No. 2. The same wheat, washed clean with pure water, and dried with powdery lime, sown 20th Nov. The result in this case was, in 820 stalks of which it consisted, there were no black heads; and in 405 stems, from the first of the same seed that had been washed in like manner, but had not been limed, only two black heads were found.

No. 3. A quantity of the same wheat smutted by rubbing and bruising smut-balls among the seed when it was planted. The result in this experiment was, that in 509 stems only two heads were smutted.

No. 4. The same seed wheat washed, and limed with dry lime, after having been smutted as per No. 3. The result in this case was, that in 965 stems of which the experiment consisted, 138 stems were black; and in 490 stalks, the seed having been treated as above and sown without being limed, there were 102 stems black with smut.

No. 5. Part of the same wheat was rendered impure before sown, by rubbing the seed with the dust of that fungus, commonly termed the *Devil's Snuff-box*, or Puff ball, (*lycoperdon globosum*,) or named by some *bovista nigrescens*. The result in this case was, in 1109 stems there were 65 black heads.

No. 6. The same wheat, blacked as No. 5, but afterwards washed as above, and dusted with dry lime. In 545 stalks, to which the experiment amounted, 36 heads were smutted. In all the above experiments the seed was put into the ground on the 20th

Nov.; but in those which follow the seeds were not planted till 25th Dec., 1826.

No. 7. A quantity of the same was kept in a damp cellar, from the time of last sowing, till it had become mouldy and had acquired a blue color. In 1056 stems, 105 were wholly smutted and black.

No. 8. Some of the same wheat rendered mouldy as that of No. 7, but washed with pure water and dried with powdery lime. In 1350 stems only two stalks were smutted.

No. 9. Some of the same wheat rendered mouldy as above, but afterwards steeped in salt pickle and limed. In the 74 stalks that had grown in this case, the whole were sound and free of smut.

No. 10. Part of the same wheat that had been kept dry and sweet for thirteen months, and to appearance every way sound. Only 124 stalks, or about one fourth of the seed had grown. But these were all free of smut.

No. 11. Wheat in the same condition as last specimen, but well washed with water only, and dried with lime before being sown. Only 115 stems spung up—scarcely one-fourth of the seed sown; but all these were sound and free of smut.

Thus, Gentlemen, have I given you a faithful detail of my experiments on this interesting subject, in the hope that others in this state who have better opportunities than I have, may turn their attention that way, and institute sets of experiments during the ensuing wheat seed-time, which might tend to additional light on the subject. Suppose it were only a repetition of the same experiments carefully made and reported, it certainly would do good to the cause of Agriculture and Science.

In conclusion—No doubt some of the results of these trials were different from what might have been expected from my former experience—those of Nos. 3 and 4, for instance; but I attribute that seeming inconsistency to have proceeded from the smut-balls used having been long kept and excessively dry, and the active properties of the seed of the fungus, from that circumstance, rather reduced to a state of dormancy. The wheat too, was very hard and dry, which in this instance would not help to restore the action of the minute seeds. In No. 4 this principle seems almost to have been proved by their renewed activity on the application of water; for, in spite of all the washing that portion, yet it seems to have produced a large quantity of smut. The same observations may be extended to Nos. 5 and 6.

I am, Gentlemen,
your ob't. serv't,
GAVIN YUILL,
51 Sullivan-st.

New York, Aug. 22, 1828.

ART. 126.—*Remarks on the Olive Tree.*—[From a Letter of Mr. Jefferson to the Agricultural Society of South Carolina.]

The Olive is a tree the least known in America, and yet the most worthy of being known. Of all the gifts of Heaven to man, it is next to the most precious, if it be not the most precious. Perhaps it may claim a preference even to bread; because there is such an infinitude of vegetables which it renders a proper and comfortable nourishment. In passing the Alps at the Col de Tende, where they are mere masses of rock, whenever there happens to be a little soil, there are a number of Olive Trees, and a village supported by them. Take away these trees, and the same ground in corn would not support a single family. A pound of oil which can be bought for 3d. or 4d. sterling, is equivalent to many pounds of flesh, by the quantity of vegetables it will prepare and render fit and comfortable food. Without this, the country of Provence, and territory of Genoa, would not support one-half, perhaps not one-third of their present inhabitants. The nature of the soil is of little consequence, if it be dry. The trees are planted from fifteen to twenty feet apart, and when tolerably good, will yield fifteen to twenty pounds of oil, yearly, one with another. There are trees which yield much more. They begin to render good crops at twenty years old, and last till killed by cold, which happens at some time or other, even in their best positions in France; but they put out again from their roots. In Italy, I am told, they have trees two hundred years old. They afford an easy, but constant employment through the year, and require so little nourishment that, it may be fit for any other production, it may be cultivated among the Olive-Trees, without injuring them. Wherever the Orange will stand at all, experience shows, the Olive will stand well, being a hardier tree.

Notwithstanding the great quantity of oil made in France, they have not enough for their own consumption; and, therefore, import from other countries. This is an article, the consumption of which, will always keep pace with its production. Raise it, and it begets its own demand. Little is carried to America, because Europe has it not to spare; we, therefore, have not learnt the use of it. But cover the Southern States with it, and every man will become a consumer of it, within whose reach it can be brought, in point of price.

Calamus root.—It is said that the roots of this herb, (the *Acorus calamus* of L.) cut in thin slices, and laid among woolen cloths of any kind will effectually repel the attacks of moths.

ART. 127.—*The Massachusetts Professorship of Natural History, and the Botanical Garden at Cambridge.*—[From the New England Farmer.]

The Visiters of this Professorship, and public garden, feel it to be their duty to lay before the public its actual situation, and its imperious wants. While its critical circumstances impose this obligation on the persons intrusted with its care and management, they are sensible that it is their duty to give the history of their administration of its funds, in order that those who have contributed to it, and those who may be solicited to afford their aid to prevent its decline, and possibly ruin, may be enabled to judge how far the trust committed to the Board of Visiters has been faithfully executed. The subscription was commenced in 1801, and completed in 1804. There was a general and we may say an universal feeling in this state, that the natural history of the United States had been much to our disgrace, entirely neglected. There were, at the time when this subscription was opened, but two persons in New England, who could give a scientific description of any tree, shrub or plant, in this portion of our country. The other branches of natural history, Zoology, Entomology and Mineralogy, were in a state still more miserable. Yet at that moment, the remotest parts of Germany and Sweden were familiar with our plants, and when our early botanists began their studies, they were obliged to resort to the works of those distant authors, written in a foreign or a dead language, in order to know with any accuracy the plants which sprung up under their feet. It was not, however, a sense of national inferiority alone which stimulated the exertions of the founders of the Botanic Garden at Cambridge. A personal experience of the embarrassments, which attended both useful and ornamental horticulture in the very limited state of knowledge which then existed, had its share in producing the exertion. Our fruits and ornamental plants were known by such an endless variety of names, that no man could feel the least security, when he ordered a tree or plant, that he should not receive one, which he had before possessed in great abundance.

These motives led to the attempt to found a botanical garden. That it was so successful in the then existing circumstances of the town of Boston, and of the state, is as surprising as it is honorable to the contributors. Boston did not at that time contain a population exceeding 35,000 souls. Yet a subscription was readily made of 35,000 dollars. The subscribers, instead of seeking an act of incorporation, or of granting the funds raised, directly to the College, chose to vest the visitorial power and the entire management of the funds in the trustees of the Massachusetts Society for promoting Agriculture, with whom they associated the President of the American Academy of Arts and Sciences, and the President of the Massachusetts Medical Society for the time being. The motives which led to this arrangement will be readily perceived. The duties of the Corporation of Harvard College were very great, and principally devoted to the care and discipline of the University. They might be, and in all probability would be, men, not conversant with Horticulture. The great object of the establishment, being the promotion of knowledge in native and foreign plants, useful in agriculture, horticulture and medicine, as well as the encouragement of the sciences of botany and entomology, it was natural and highly expedient, that the care of the Institution should be committed to persons among whose duties were the promotion of agriculture, horticulture, and the knowledge of the materia medica.

The funds raised by subscription were about 35,000 dollars. To this sum was added a grant of a township of eastern lands, which from various untoward circumstances has not been available to the Institution in any degree. The Board of Visiters will now proceed to state the manner in which they have disposed of these funds. There was no competent knowledge, existing in this country, as to what were the wants of a Botanic Garden, or as to the mode of putting one in operation. The Board of Visiters themselves decided that it was expedient to send the first Professor to Europe to acquire this knowledge. This voyage cost the Institution 9,000 dollars, and the Library selected by the Professor 1,100 dollars more. This, it will be at once perceived, made a serious encroachment on their funds.

The land on which the garden is placed, including the gardener's house, cost 1,800 dollars; and a better location could not have been made within a reasonable distance from the College. The fences cost 1000 dollars. The Green Houses, equal if not superior to any in the state, cost 2,500 dollars, and the Professor's house 4,000 dollars. The whole of the foregoing sums, to wit.:

For the voyage of the Professor	$9,000
Books	1,100
Land	1,800
Fences	1,000
Green Houses	2,500
Professor's House	4,000
	19,400
The laying out and planting the grounds including drains, banks, fish pond and walks, were cheaply executed for	6,000
	$25,400

There was some accumulation of income during the erection of the buildings and laying out the grounds, so that when the accounts were closed, there remained property on interest to the amount of 13,000 dollars, besides a note of seven thousand dollars, taken for a township of land granted by the Legislature, which, owing to the misfortunes of the promiser, became of no value, and the Board of Visiters were glad to receive back the contract for the land, and to cancel the notes.

The fund thus diminished produced only 800 dollars per annum, while the Board of Visitors were obliged by law, and by every sentiment of honor and justice to pay to Professor Peck his moderate salary of 1200 dollars. No man, it is presumed, will complain, that the Board of Visiters declined to withhold its support from the first naturalist of New-England, because in their service by the act of God he became unable to perform his duties. This obligation reduced the funds still lower. The Garden would long since have followed the fate of the Charleston Public Garden, founded by Dr. Hosack, and purchased by the state at the price of 70,000 dollars. It would have, like them, been converted into a wilderness, had not the Visitors applied for and obtained the aid of the Legislature—of a very enlightened Legislature, who, not mistaking false maxims of economy for true ones, saw in the destruction of a great public work, great loss, deeming that the riches and prosperity of a state are as much promoted, to say nothing of its reputation, by wise and generous establishments for the promotion of knowledge, as by any financial measures. The amount received from the Legislature could not in any one year exceed by the resolve itself 600 dollars, and frequently fell short of 500. Even this small sum has not been received during the last three years, owing to the state of the Treasury. The Botanic Garden, founded by private munificence, and one of the most honorable institutions of the State, must fall, unless a small portion of the public spirit exhibited by our predecessors still remains to be called forth in its support. Of this the Visiters can entertain no doubts; which would be a reproach to our present state of society—to a much more extended, and a much wealthier population. It is now more than 25 years since the last appeal was made on this account to public munificence. Many persons have accumulated fortunes since that time, and others, who then subscribed, have increased their means of doing good.

It only remains now to state the wants of the Institution, and the means proposed of relieving them. The fences require an entire renewal. They have lasted 20 years, which is all that can be expected from wooden materials. They can be replaced for 1000 dollars. The Garden stands in great need of a stove or hot house for tropical plants. The present house is a green house only, and when it is made sufficiently warm for tropical plants, the plants of cooler countries suffer. This, too, prevents our raising so many plants for sale, as we could wish to do, for the true policy of the establishment is to make it eventually support itself. At present it produces about 400 dollars a year, and on the proposed plan it is confidently hoped it will yield a thousand.

The next and a very pressing want is adequate support, and at least something approaching to a suitable reward to the Curator. No Botanic Garden in the whole world can be found without one man of science at his head. In the impoverished state of our finances, we could offer to Mr. Nuttall only 500 dollars a year. But he had encouragement to hope for a better state of things; to him, that promised time, though patiently expected for seven years, has not yet arrived. Mr. Nuttall has been for many years under the eye of the Board of Visiters. To the nation he was before well known. His conduct and his acquirements have appeared to the Board of Visiters, all that they could wish or expect from a man, who had devoted his best days to illustrate the natural history of these States. He has traversed all the most unhealthy climates of the United States, and from them all collected additions to our catalogue of plants. As a writer on subjects of natural history, Mr. Nuttall takes a high rank. All his works exhibit a clearness and a thoroughness of knowledge accompanied with simplicity, which render them highly valuable in the infant state of this country. His last work, intended as an Introduction to Botany, for the use of students, is one of the best in our language. Can there be a wish to restrict the compensation of this deserving and unassuming man to a miserable pittance of 500 dollars a year? W cannot expect that our Institution will flourish under so parsimonious a system. Some additional labors will be required in the Garden to make it what we wish it should be, an honor to Massachusetts; one of its sources of praise from foreigners, and of pride to ourselves.

For these various objects we ask only a subscription amounting to half what our fathers did for it, and for us. From 17 to 20,000 dollars will place the Garden in a state which will require no further public aid. The Board of Visiters may take some share of praise for having made the Garden what it is, without calling for further subscriptions. The Garden at Cambridge would be deemed a respectable one in Europe. It is not much inferior to that at Edinburgh, or Leyden, and it is superior to an ancient one at Rouen, and many in Italy. In this address to the public, we shall not be able to enter into

details, but we shall publish in a separate sheet, the past and present state of our collections.

Our proposed mode of placing this garden on a footing with the one at Liverpool, (which is the mark at which we would aim) is,

First, by soliciting subscriptions in aid of the permanent fund. These subscriptions are not expected to be be great from each individual, though we hope that the opulent, though often pressed into public service, may set an example of liberality.

In soliciting these subscriptions we shall appoint those as solicitors (who we believe feel the importance of this school for a neglected science) to aid our own efforts.

Our second proposition is suggested by the experience of the garden at Liverpool. That fine establishment is supported chiefly by the public taste. The love and admiration of the beauties of nature is taxed, and not taxed in vain. Annual subscriptions are made for the privilege of visiting the Garden, and we should hope that this resource will not be found unavailing here.

It is proposed to have two prices for annual subscriptions,—one of three dollars a year, for which the subscriber shall have a ticket to admit his own family gratis for the year in winter and summer; the second to be five dollars, for which the person subscribing shall receive a ticket of admissison on the same terms as those above stated, and shall moreever be entitled to receive plants, or cut flowers for ornament to the amount of two dollars.

Subscribers to the amount of 50 dollars shall also have tickets of admission for life for their families only.

Subscribers to the amount of 100 dollars shall have tickets of admission, gratis, during life, and shall be entitled to receive plants to the amount of 3 dollars a year.

Subscribers to the amount of 200 dollars and upwards, shall have tickets of admission, gratis, during life, and shall have a right to receive plants to the value of 9 dollars per annum.

The price of plants shall be fixed by the Curator, and shall be placed as low to subscribers as they are sold for cash.

It is, however, distinctly to be understood, that there are many plants, which, from their rareness, or high value cannot be sold, but the classes of plants which are ever sold, the subscribers shall have an equal right with other persons to receive.

It may be proper to observe, that there are many hardy plants fit for private gardens which are always for sale, and persons wishing to procure such plants, are earnestly requested to give to the Public Garden the preference.

A taste for botany, and for flowers, as necessary as agreeable ornaments, is inseparable from a state of polished society. It would not be credited, if we were to state the amount paid for flowers in London, Paris, Liverpool, Amsterdam, and all the other great cities of Europe. Our country cannot form an exception. New-York and Philadelphia now support great establishments for the cultivation of flowers. It is not to be believed that a similar taste will not prevail among our ladies. We have one advantage over our sister states. We have a public garden, honorable to the state and to the city, whose inhabitants founded it, and while we gratify our own tastes, and give pleasure to those who visit us, by ornamenting our rooms with the choicest productions of nature, we may feel at the same time, that we are contributing to the advancement of an establishment which will confer honor on this portion of our country.

REPORT.

The Committee to whom was referred the subject of devising means of relieving the present necessities and of promoting the future extension of the Botanical Garden at Cambridge, and the Professorship of Natural History, there established, submit the foregoing address to the public, and plan to the consideration of the Board of Visiters.

JOHN LOWELL, *Chairman.*

At a meeting of the Board of Visiters of the Massachusetts Professorship of Natural History, held at the house of the Hon. RICHARD SULLIVAN, on the 10th day of August, 1828, the above Report was accepted, and the subject was committed to JOHN LOWELL, Esq., Dr. JAMES JACKSON, and JOHN C. GRAY, Esq. to adopt such measures as they may deem proper to carry the foregoing plan into execution.

Attest. B. GUILD, *Secretary.*

[ORIGINAL.]

ART. 128.—*A short Treatise on Botany.—Continued from page* 152, *No.* 7.

The outline which we have given in the preceding numbers may serve to convey an idea at least of the general features of Botanical science which it will be necessary to obtain, previously to entering more at large upon the subject. The subject of classification will further engage our attention; having stated in the last number, the foundation of the Linnæan arrangement, which is the one most commonly used, we must caution our readers, and particularly those for whose use this short treatise is intended, not to be repelled by the hard names which we shall have occasion to introduce. These names are absolutely indispensible, and it could readily be shewn that Bo-

tany could never have been established as a science without their use. No single mind, within the ordinary compass of a life-time, could acquire the various names by which the different nations of the earth designate in their own language, the different species of plants growing among them. To avoid the confusion and uncertainty which would inevitably follow, from the adoption of the local names of plants, a name derived from the dead languages, Latin or Greek, is invented, which is adopted by common consent of all nations, and thus, a native of Russia, of England, France, or the two Americas, or even of China, conversant in the science, readily understands what is meant when any plant is named according to this system; hence, therefore, the student in learning these names, however repulsive they may seem, may be assured that he is acquiring terms which are intelligible to the whole civilized world, and indeed the only certain means to distinguish plants in any country.

I...OF THE CLASS MONANDRIA.

This class comprizes very few plants, and we have but one or two examples which are native or indigenous to our country. Along the sea shore, and in the neighborhood of salt-water, there is found a plant usually called salt-wort or samphire, the *Salicornia* of Linnæus, entirely destitute of leaves, and of a very salt taste; this plant is used in England for making pickles, and is there called Samphire; but is not the same plant called by that name, and alluded to by Shakespeare in his description of Dover cliff, in Lear; that being the *Crithmum maritimum*. A curious plant without calyx or corolla, the flower consisting entirely of one stamen and one pistil, and is found in some parts of our country, called mare's tail, *Hippuris*. There are also several species of this class occasionally cultivated with us; such as, the *Canna*, or flowering reed, and the Ginger, (*Amomum Zingiber*) a native of the East Indies.

II...OF THE CLASS DIANDRIA.

As examples of this class, the Fringe tree, or *Chionanthus virginica*, a native tree, with its delicate white flower, is conspicuous. The Olive of Europe which is so commonly cultivated in France, and the South of Europe, affording its fine oil for all parts of the world is also of this class: another species of Olive, the *Olea fragrans*, is extensively cultivated in China for the purpose of scenting their tea. Several plants of strong scent and containing very powerful essential oils, belong to this class; such as the sage, the mountain balm, rosemary, &c. The *Salvia splendens* is frequently cultivated in our gardens, and is much admired for its beautiful scarlet colored calyx and corolla. The Pepper is included in this section: it is well known that there are two kinds of pepper in commerce; the black, and white grains—they are both the same species, but the white grains are produced by removing the epidermis from the black kinds, after steeping them in water.

A species of grass differing from most other kinds in having 2 stamina in place of 3, is placed in this class, and is called sweet scented vernal grass, or *Anthoxanthum*; it is frequent in our meadows in spring, and gives a delicious scent to hay, similar to that of the Tonqua bean, which it retains a long time.

III...OF THE CLASS TRIANDRIA.

This class embraces many beautiful plants, both foreign and natives of our country. The beautiful Tiger Lily, *Tigridia*, a native of S. America; the Blue Flag, *Iris*, many of which are found in marshes in all parts of N. America.

Besides these another class of plants of but little beauty, but of great usefulness in the arts and other branches; it contains the rush kind. In these the flowers are small and scarcely perceptible, but never theless they are as complete as in other kinds of plants. The most remarkable, perhaps, is the Papyrus, a species of Cyperus, which grows in its native place on the shores of Italy, Egypt, etc. This is the plant from which the ancients procured the paper they used in their writings, and hence the name *paper*. The outer skin of the stem being taken off, the inner part was cut into thin slices, which were attached together so as to form sheets of considerable size. This kind of paper was in use until the 10th century, when paper similar to what is now in use, was introduced.

Most of the grasses belong to this class, and their importance renders them a subject of the highest interest.

The grasses furnish their appropriate subsistence to an immense number of the animals of different kinds. To man they afford bread, one of the most wholesome and nourishing aliments; and various species of cattle, which he has subjected to his use, are entirely dependant on them for their food: vast quantities of birds and wild animals find in them the means of subsistence.

Wheat, *Triticun*, which is a grass whose native place is now uncertain, is cultivated all over the world. Rye, *Secale cereale*, a native, originally of Crete. Barley, *Hordeum vulgare*, a native of Sicily. All these are grasses which feed immense numbers of the human family in all parts of the globe.

These were no doubt once wild and incapable of furnishing the food, which on being cultivated, they now do.

There are some native grasses with us capable of being very productive.

Our aboriginal Indian tribes made great use of the wild rice, *Zizania aquatica*, a grass growing like rice, in fresh water lakes, particularly in the north parts of our country. The grains of this grass, even in their wild state, are parched and afford excellent food. No doubt if cultivated it would be found a most valuable and abundant food.

We have several other wild grasses which afford large and farinaceous grains succeptible of profitable cultivation orysopis.

The Sugar Cane, a native of the two Indies, is another grass, and is cultivated on a great scale, in the West India Islands. It affords sugar of different kinds, molasses, and a spirit called rum, when distilled.

IV...OF THE CLASS TETRANDRIA.

The common Teazle, *Dipsacus fullonum*, a native of S. Europe, is of this class: the receptacle of this plant being furnished with chaffy scales, to which a hooked end is attached, serves the purpose of an instrument for dressing woollen cloths, and is used by dyers, and woollen manufacturers for that purpose.

The Witch Hazle, *Hamamelis virginica*, a remarkable plant of our country which unlike most other plants, flowers in the autumn and in winter, and perfects its seed in spring, is of this class. The Plantain, also a common and ill-looking plant, which grows everywhere is also of this class, as also is Madder, a species of dyeing material, from the root of a plant growing in Italy; another example is the Holly, *Ilex aquifolium*, a European plant, an evergreen, which flourishes in a green state during the whole winter, with its beautiful scarlet berries: it is frequently cultivated with us as an ornamental evergreen, and its branches are used to decorate our churches, houses, etc. during the season of Christmas. It is the bark of this shrub that furnishes the bird lime, which is of peculiar adhesive nature, so that when it is smeared on small twigs of trees it is capable of capturing small birds.

V...OF THE CLASS PENTANDRIA.

The 5th class, is the most extensive in its numbers of genera and species, of all the rest; and the plants which it embraces are consequently the most difficult to distinguish, if the mere flower is examined without the fruit. There are many very remarkable and beautiful plants in this class. One of the most singular for its form, and splendid in its colors, is the Passion flower, *Passiflora:* this elegant genus is a native of South America, and we have 3 species in South Carolina. It is generally cultivated for its exquisite appearance; and the name of Passion flower was given it by the Spanish Jesuits, (who first discovered it,) from a fanciful comparison of the parts of its flowers with the recorded facts of our Saviour's crucifixion:—the pistils, which are three, they said represented the three nails with which he was nailed to the cross; the five stamens, the five wounds; and the beatiful purple rays which compose the nectary, resemble the halo that surrounded his head when about to expire on the cross.

In this class is included what are termed *umbelliferous* plants, whose mode of flowering is upon the umbel: some of these are of a highly poisonous nature, as the *Cicuta*.

The parsnip, *Pastinaca sativa*, and the carrot, *Daucus carota*, are both of this class, and both are found wild in our country: in this state the roots are very small and unfit for eating.

Tobacco, *Nicotiana*, which is a native of our southern states, and has long been cultivated and exported in great quantities, is of this class.

The luxuriant grape, the fruit of the Vitis vinifera, a native originally of Persia, but now cultivated in all parts of the globe for its exquisite wine, which is the juice of the grape, belongs to this class.

We have several species of native wild grapes, which, if cultivated, would yield wine at least equal to that produced from the European grapes. There is a variety of the species Vitis labrusca, Fox grape, which is called Bland grape, and is a most delightful harvest fruit.

The Currant and Gooseberry also belong to the 5th class; of both these kinds we have many wild species growing in different parts of our country; but which, for want of proper cultivation, are lost to the uses of the table in the manner in which they are employed in Europe.

Among other plants found in America, remarkable for elegance or use, is the Cardinal flower, *Lobelia cardinalis*, which in the last summer months, may be found along our swampy ground near fresh water streams; From its beauty, it is a great favorite in Europe, and is generally cultivated in pots. Another wild flower of extreme beauty is the *narrow leaved* Gentian, *Gentiana angustifolia*, which grows likewise in swamps, and is worthy of cultivation. Many species of the wild Cotton, *Asclepias*, are alike remarkable for singularity and beauty of the corolla.

VI...OF THE CLASS HEXANDRIA.

This is one of the most remarkable divisions of the kingdom of Flora, and embraces many plants of uncommon magnificence in all parts of the world. The Lily, for instance many kinds of which grow in our country wild, particularly the Turk's cap, *Lilium superbum*. In the West Indies the delightful Pine apple, or the Anana, *Bromelia*, is a native, and is frequently brought to this country. The Bread fruit, or *Musa sapientum*, also belongs to this class. The tulip, the amaryllis, solomon's seal, and many other splen-

did flowers adorn this class. The largest bulbous plant known is a native of our southern states, the *Agave virginica*, or American aloe.

VII...OF THE CLASS HEPTANDRIA.

This is one of the smallest class of plants and contains very few remarkable specimens. The beautiful flowering Horse-chestnut, *Æsculus hippocastanum*, with its digitate or finger-like leaves, consisting of 7 leaflets and its large *thyrse* of white and rose flowers, forms a handsome ornament for our streets, where it is frequently planted for its thick foliage. Several other species of this tree grow in our southern states and only require the aid of cultivation to be as general and ornamental as the Asiatic species. Another American plant of this class, which is frequently to be met with along the borders of fresh water streams, and is of most delightful fragrance, is the Lizard tail, *saururus cernuus*, has no corolla, and its calyx is a mere scale.

ART. 129.—*Nectarines,*—*Amygdalus Persia, fructo glabro.*—[Communicated by Wm. Prince, Proprietor of the Linnæan Botanic Garden.]

The varieties of this fruit resemble the peach in every respect, except that the skin is perfectly smooth, of a waxen appearance, and the flesh generally more firm. The four following varieties are of very recent introduction to this country, and are among the most esteemed.

Early Violet, *Violette hative.*—This fruit is the size of the small Mignonne peach, yellowish on one side, and of a dark violet on the other; the flesh excellent, sugary; it is a cling-stone, and ripens in the beginning of September and the tree is very productive.

Large Violet, *Grosse Violette.*---This is distinguished from the preceding by the fruit being of double the size, and marbled with redish violet on the sunny side, the flesh is rather less vinous but like the foregoing it adheres to the stone, and ripens about the middle of September.

Musk Violet, *Violette musquee.*---The fruit of a good size, of a lively red colour on the sunny side, flesh yellow, vinous and musky; it is a cling-stone, and ripens in September. I received quite a different fruit for this kind, from Paris, but finally succeeded in obtaining it correct from another source.

Late Yellow, *Jaune lisse.*---This is a freestone, with small fruit, of a yellow colour, slightly touched with red on the sunny side, and having somewhat the taste of an apricot. Being a late fruit ripening in October, it is preferable to give it a warm position. I found it difficult to obtain this fruit with accuracy, even from France; and received from a Paris nursery, a miserable yellow hairy peach in lieu of it. I have since however, obtained the genuine kind from another quarter.

ART. 130.—*Suburban Gardens.—Parmentier's Garden.*

One of the best planned and best executed models of a garden which we have visited is the establishment of Mr. A. Parmentier, about two miles from Brooklyn. The following map will serve to convey some idea of the general disposition of the whole, but we are confident that no plan nor description can furnish an adequate image of this delightful spot. We look upon it as an era in the history of our Horticulture. We do not mean to assert by this that the various branches of this science were not understood and practised by most of our gardeners before the arrival of Mr. P. The villas and country residences of many of our citizens, and our markets and fruit shops are abundant evidence that both the ornamental and useful branches of the art were successfully pursued among us in the tasteful embellishment of landscape scenery, and in the abundant production of the finest fruits which any climate can boast of. But we do not know of an instance where the several departments of the gardener's labors are combined so extensively and with such scientific skill; nearly 25 acres of ground are enclosed, and the inhabitants of the vicinity, and those who recollect the original scite of the garden, now view with astonishment, in the short space of three years, one of the most stony, rugged, sterile pieces of ground on the whole Island, which seemed to bid defiance to the labours of man, now stored with the most luxuriant fruit and blooming with the most beautiful flowers.

The ground plan of the garden, though nearly level has considerable diversity of surface; the most elevated part facing the south and south-west, is appropriated for the purpose of a vineyard, and the most valuable varieties of the grape, foreign, as well as indigenous, are here cultivated. The beds of the flowering or ornamental part compose broad belts laid out in a serpentine or waving direction, and edged with thrift, (*statice armeria*) we have never seen this plant applied to this purpose so extensively and if it could retain the beautiful appearance throughout the season, which it exhibits in the first summer month, with its delicate pink blossoms, it would afford the finest possible material for a border, which could be employed; but it does not long remain in flower, and its verdure is inferior to the box, which is commonly used for that purpose.

Nothing can exceed the effect of the contrast

in color and form in the various flowers and shrubs of these sections, and the delicate foliage and rich blossoms of many of our native plants are not among the least attractive in this assemblage, arranged at frequent intervals. The several species of *Robinia*, the *Philadelphus grandiflorus*, the *Halesia*, the *Ptelea*, and many others conspicuous for their beauty, interspersed and contrasted with the delicate *Tamarix*, of Europe, the *Paper mulberry* now bearing its curious fruit, and the several species of shrubby *willows*, and *poplars*; the splendid *Anchusa capenis*, with its azure blossoms, and the no less luxuriant *Balsamine*, and thousands of others which we might mention, are all disposed in the most artful manner to heighten the effect, and at the same time to conceal the appearance of art.

In the Northern parts of the garden are contained the nurseries; samples of each kind of tree which are kept in the nurseries are distributed in the beds. To the left of the garden an avenue leads to a Rustic arbor curiously constructed of the crooked limbs of trees, in their rough state, covered with bark and moss; from the top of this arbor a view of the whole garden, and the surrounding scenery is exhibited, extending to Staten island, the bay, Governor's island, and the city: at some distance from the rustic arbor is the French saloon, a beautiful oval, skirted with privet, *Ligustrum*, kept dwarfed to the height of a foot and enclosing a solid mass of China monthly roses. The various kinds of fruit trees are carefully arranged and the lanes leading to them are skirted with the different species in a bearing state, for better exhibition, and to furnish the necessary grafts for the establishment.

The green-house department, although not so extensive as some in our vicinity, contains many beautiful plants exhibited with the same tasteful arrangement which characterizes the whole of Mr. Parmentier's establishment; even the method in disposing the pots according to some principle of grouping or contrasting the color and size of the flowers, entertains the eye, and shows the variety of ways in which a skilful gardener may distribute his materials to produce picturesque effect.

The manner of protecting the plants from the violence of the weather, or the heat of the sun, is quite novel; canvass covers being so managed as to be rolled or unrolled with the greatest ease and dispatch by means of ropes and pullies; the necessity of some such skreen is quite obvious when plants and particularly tender exotics are exposed to our excessive sun, and yet it is too generally neglected among our gardeners.

We are gratified in recommending this establishment as one of the few examples in our neighborhood, of the art of laying out a garden so as to combine the principles of the landscape with the conveniences of the nursery or orchard; and every proprietor who may have a piece of land which he wishes to arrange and embellish in this manner, may find it to his advantage to consult Mr. Parmentier.

Salsafy, or Vegetable Oyster.—This plant, *Tragopogon porrifolium*, is biennial, and the root is a good substitute for the real oyster. It is of easy cultivation in a deep rich soil. The young plants are not so liable to be destroyed by insects, as most other biennials. The roots are white, and shaped like a parsnip. They may be taken up late in the autumn, and secured in moist sand from the air; or be suffered to remain out, and dug up when wanted. Every lover of oysters, who lives at a distance from the sea-shore, will wish to cultivate this plant after he has once eaten them, when *properly prepared* for the table.

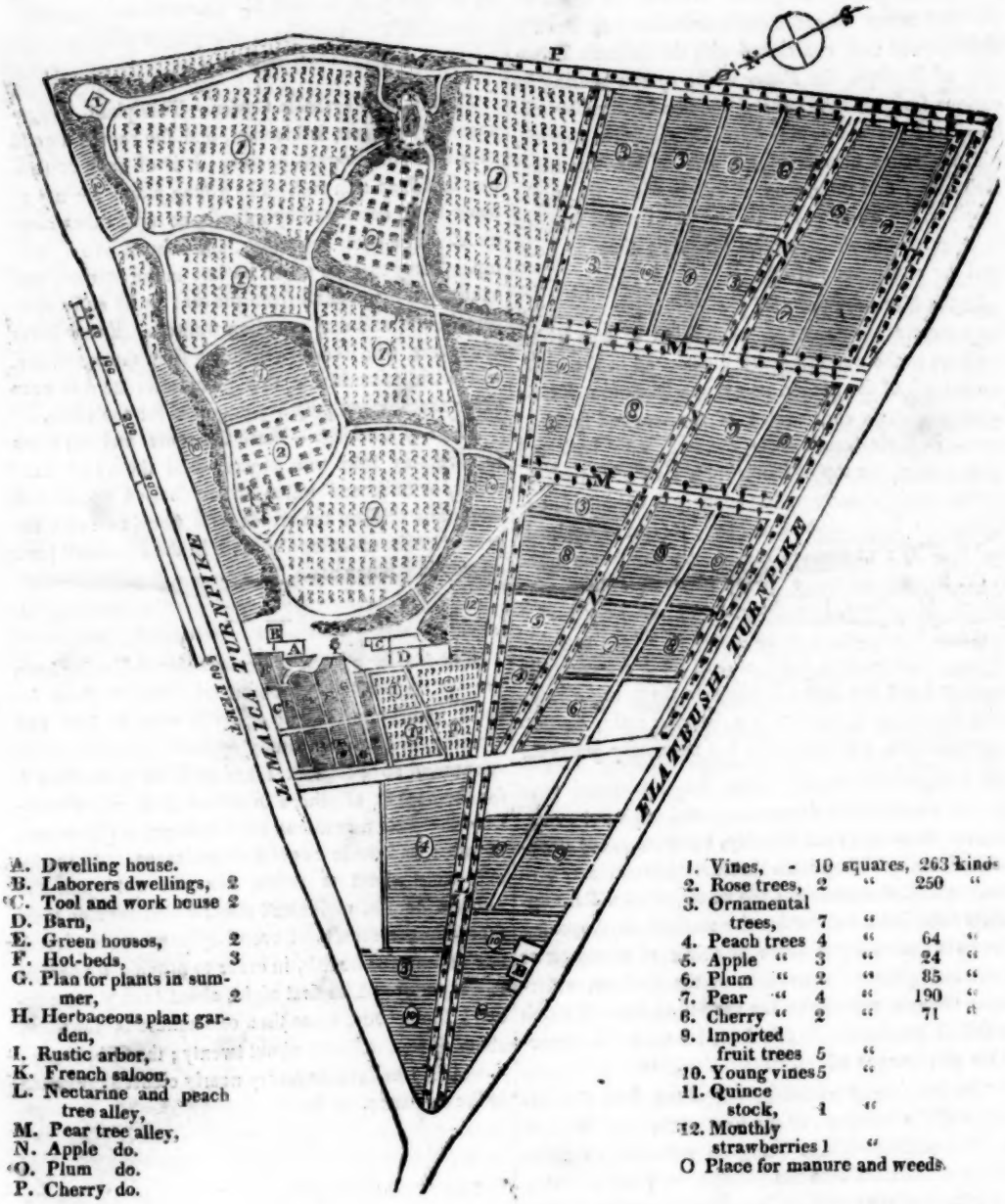
Mode of Cooking.—Wash the roots, and cut them transversely into thin pieces—boil them in a little water, or milk and water—when boiled soft, mash them, and thicken the whole with flour, to some degree of stiffness—then fry them in the fat of salt pork or butter. They are a luxury.

How to clear a house of Cockroaches.—Having been greatly annoyed by the nocturnal visits of these insects, which appear to be eqally in want of food and clothing, some of my family applied a remedy which succeeded so well, that I am inclined to mention it for the benefit of those to whom it is not already known. Into a common bowl was put a gill or two of water, and made sweet with molasses. As the family were about to retire, this was set upon the kitchen hearth, under and about which seemed to be their favorite resort. Several splinters were placed, one end on the hearth, in order to provide a passage to the water. The first night, about twenty were taken; the second, more than one hundred; the third, about fifty; the fourth about twenty; the fifth, seven;—which, I believe, has very nearly cleared my house of the nuisance.

Rice Machine.—A new machine for separating the grain of rice from its husks, has been invented in Italy. It consists of two fluted cylinders, set in motion by an hydraulic wheel. These cylinders revolving on a horizontal plane, detatch the grain from the panicles. It subsequently passes across a wooden hurdle, while the straw is separated by the movement of the machine.—*Am. Farmer.*

PARMENTIER'S GARDEN, NEAR BROOKLYN.

(Containing 24 Acres.)



A. Dwelling house.
B. Laborers dwellings, 2
C. Tool and work house 2
D. Barn,
E. Green houses, 2
F. Hot-beds, 3
G. Plan for plants in summer, 2
H. Herbaceous plant garden,
I. Rustic arbor,
K. French saloon,
L. Nectarine and peach tree alley,
M. Pear tree alley,
N. Apple do.
O. Plum do.
P. Cherry do.

1. Vines, -	10	squares,	263 kinds
2. Rose trees,	2	"	250 "
3. Ornamental trees,	7	"	
4. Peach trees	4	"	64 "
5. Apple "	3	"	24 "
6. Plum "	2	"	85 "
7. Pear "	4	"	190 "
8. Cherry "	2	"	71 "
9. Imported fruit trees	5	"	
10. Young vines	5	"	
11. Quince stock,	1	"	
12. Monthly strawberries	1	"	

O Place for manure and weeds.

OTHER KINDS OF FRUIT TREES.

Nectarines,	15 kinds.	Quinces,	5 kinds.
Apricots,	18 "	Raspberries,	5 "
Walnuts,		Gooseberries,	20 "
Chestnuts,	20 "	Currants,	7 "
Filberts,		Strawberries,	17 "
Hazlenuts,			

ART. 131.—*To the Editors of the New-York Farmer and Horticultural Repository.*

GENTLEMEN,

In the seventh number of your work, page 169, you have inserted an article headed, "Critical remarks on the Essays of an American Horticulturalist," where your critic commences with charging their author with having undertaken a task for which "he has not the requisite qualifications." These essays are entitled "An account of the nature and state of American horticulture." &c. Now it appears that justice to their author would have required of the man who was free enough to make the above charge, and also for his own credit, have induced him to particularize some one sentence or doctrine advanced in these essays, for the fair refutation of which your readers had a right to expect he would have shown himself abundantly adequate. The vain and ostentatious style of the essays, (if it is so) as your critic charges them with, is a misfortune in which the public will feel but very little interested, nor are they likely to be very well satisfied with what may appear to him to be a superior exhibition of his own refined specimens of more grammatical and refined composition, without his honorably redeeming that pledge, which his charge against the author of these essays had entitled them to look for. We have examined these essays, as well as all that you have published under the title of critical remarks thereon, without being able to discover one single argument against them, supported by any other evidence of its correctness, other than the broad assertion of your critic himself. It is to be hoped, however, that if the doctrines advanced and so elaborately, (and by that means so offensively) illustrated, are of such an erroneous and despicable a stamp as represented by your critic, that he will do the public the justice of satisfying them thus far, to produce the testimonies of other authors of at least equal respectability with himself, of the correctness of what he has to specify against them. For although he has already wrote a long piece of general declamation against them, it must be remembered that the public are entitled to some other respectable well authenticated evidence to sanction their condemnation; and which, if they are truly deserving, he can be at no loss, to produce. The author of these essays advances as one grand fundamental doctrine which he undertakes to maintain, "that owing to the superior congeniality of American climate her garden products in many respects, far exceeds those of England." A very respectable sample of these products he has fairly and distinctly pointed out, viz. Indian corn, Lima beans, Persian melon, comprising all the varieties of the Cantelope, Musk, Nutmeg, Citron, Pine apple, etc. the Watermelon, the Cucumber, and all the fine varieties of Summer, or early, and Winter, or late Squashes and Pumpkins. This is represented as a list of garden products of superior excellence; and it seems strange that any man who is acquainted with the great care and expense bestowed on their cultivation in England, should assert that the products of any of them are there held in so little repute that their great men, "would rather throw such things to their hogs than eat them."

From what course your critic expects to be able to bear out his veracity in such an assertion, we know not, but we do know that the testimonies of high authority, besides that of the American horticulturalist, are against him.

In a work of great reputation, published in London, in 1827, called Loudon's Encyclopedia of Gardening, at page 675, paragraph 4210, is the following account: "The Squash is the *C. Melopepo, etc.* a native of the Levant, introduced in 1597; it is cultivated like the pompion, and the fruit is used in pies, or gathered when of the size of a hen's egg, dressed in salt and water, and sliced and served on a toast. It is also used for pickling. In North America it is cultivated as an article of food." On the same page of the same work paragraph 4214, is recorded the testimony of one of the most eminent horticulturalists in England in favor of the produce of the Squash, "the vegetable marrow (*C. pepo.* var.) was introduced within these few years from Persia, where it is called the *Cicader*." "The fruit," Sabine observes, (Hort. Trans. vol. ii. 255,) "is of a uniform pale yellow or light sulphur colour; when full grown, it is about nine inches in length, four inches in diameter, of an elliptic shape, the surface being rendered slightly uneven by irregular longitudinal ribs, the terminations of which, uniting, form a projecting apex at the end of the fruit which is very unusual in this tribe. It is useful in culinary purposes in every stage of its growth; when very young, it is good if fried with butter; when large or about half grown, it is excellent either plain, boiled, or stewed, with rich sauce; for either of these purposes, it should be cut in slices," etc. From these testimonies, and which we believe are coroborated by every other writer on English gardening, we think it will be difficult to persuade Americans that the produce of even the Squash, is there held in such contempt as your critic has asserted it to be, although it appears evident by the concluding sentence of the first paragraph above quoted, that its produce is there considered more as an article of luxury than of food, when that pre-eminence in its cultivation is candidly and justly attributed to the land of "North America."

It does not appear that any of the fine superior varieties known here by the title of Winter Squashes have ever been attempted in England.

As for the Melon, it is stated in the work above referred to, page 380, paragraph 3271, "The melon requires the aid of artificial heat the greater part of the year, and even in the warmest months it cannot be brought to perfection without the use of glass." Does your critic ascribe the ease with which they are grown to great perfection in this country in open field culture to the superior abilities of those who cultivate them? Does he contend that by the same means which are used in America for the cultivation of the Cucumber, the Watermelon, the Indian corn, and the Lima bean, etc. that similar productions could be obtained either in point of quantity or quality in the climate of England? If his critical remarks upon the essays of the American horticulturalist does not imply this, they can mean nothing. For in these essays all such doctrine is denied, and the great ease and facility with which they are produced is ascribed "the superior congeniality of American climate." And your critic, with all his toil has not been able to produce one single evidence, or even an argument to the contrary.

Nor do we think it will be an easy matter for him to substantiate his following critical assertion, "I am bold in asserting that the cottagers *throughout* England enjoy more of the luxuries of the garden than any of the farmers I have seen in the United States, and with as little expense notwithstanding our author's statement to the contrary." That he may never have seen an American farmer enjoy any thing appears very probable from the ignorance displayed in his criticism. But when a man undertakes to condemn the statements of another he ought to make it appear that he knows something more of the dispute than mere conjecture. Were he to take the trouble of visiting a few of the farmers on Long Island, he might there very easily behold at one view, on one single farm a far greater portion of the luxuries of the garden than ever was grown in all the cottage gardens of England, since the days of the Romans; for there is not one single luxury of the open garden, but what grows there in great abundance, if we except the Cauliflower, and that too without any other process than that of ordinary farm culture. But even the cauliflower we have never seen ranked by any author amongst the products of English cottage gardens much less any other kind of vegetable production that ever deserved the name of a luxury. The following extracts from Loudon we consider to be as correct and impartial as any other our critic will be able to produce on the true character of English cottage gardens. In his Encyclopedia of gardening, page 1043, paragraph 7413 it is stated, "of private British gardens, the most numerous class of gardens, and those the most regularly distributed over the British Isles, are those of the country laborer, or what are usually denominated cottage gardens." Speaking of their extent, par. 7414, he says, "this will generally as already stated, par. 7296, be something between one eighth and three sixteenths of an acre including the space on which the cottage stands." And in paragraph 7416, he says, "the vegetables, which may be most profitably cultivated by the occupants of this description, are cabbages of the early heading sorts, hardy borecoles, and German greens, early potatoes, parsnips, turnips, carrots, onions, leeks, peas, beans, and kidney beans; a plant or two of celery, (not to be blanched,) thyme, mint, and chives for seasoning; and a few plants of rhubarb for tarts."

The above is the selection of vegetables recommended by Mr. Loudon as being the most proper for such gardens: should your critic be enabled to produce any better authority of the list of their productions than those above enumerated as being more extensive, or so much as one single article of luxury, generally to be met with, amongst the whole race, we are willing that he should have every possible credit to support the object which he had in view in making this last bold assertion, if the reader was willing to swallow it; viz. that the cottagers in England enjoyed more garden luxuries than the American farmers; or if, as in the present case it should be doubted, like his other less guarded assertion, he might escape censure by pleading his ignorance of not having *seen* the garden products of American farmers.

It may be observed that the above list of cottage garden products are only such as are recommended by a man of good judgement in these matters; and experience has long proved that the practice of those, for whom learned men have given the most wholesome instructions, generally fall rather short than exceed them. The author above quoted, in referring to what is actually cultivated in English cottage gardens, says, at page 607, par. 3486, "in cottage gardens the heading cabbages and borecoles generally occupy one half of the whole space;" and at paragraph 3643, speaking of esculent rooted culinary plants, he says, "In cottage gardens, they may be considered as occupying one half of the whole, to be in part succeeded by winter greens."

Does not honour, does not justice require of your critic, a prompt production of some similarly well authenticated evidence, to prove that universal enjoyment of the luxuries of garden products, which he has so boldly asserted that the cottagers of England possess in a superior degree to American farmers.

We must confess we blush at the apathy of the cultivators of American soil in suffering so long in quietness the reproaches which are thrown upon their valuable and abundant products by the most gross impositions; more glaring samples of which

was certainly never before offered to the public than those advanced by your horticultural critic, both respecting the luxurious productions of English cottage gardens, as well as the fallacious assertion respecting the value of that most simple and pliable production, the fruit of a SQUASH.

ART. 132.—*Proceedings of the New-York Horticultural Society.*

The excesive heat of the weather during the present month, seems to have produced the effect of suspending all labors and all exertions not absolutely called for by necessity; and the long continued drought has further contributed to render the exhibitions before the society less interesting than usual. We extract from the report of the committee of inspection, the following items.

Aug. 5th. Mr. Aymar exhibited several bunches of Muscatel grapes, in a great state of forwardness for the season, being nearly ripe, and of a good flavor.

Mr. Parmentier presented some transparent apples, a curious variety among the innumerable sorts of that excellent fruit so common in every part of the country: we have noticed this peculiarity occasionally to be found in different kinds, without knowing whether any distinct variety was altogether distinguished by it.

Mr. P. also offered a specimen, in fruit, of the Paper Mulberry, *Broussonetia papyrifera*, a native of China, where they manufacture a kind of paper from the inner bark of the tree: this plant is a dicœcious vegetable, bearing its male and female flowers on different trees; it is not uncommon among us, though the female kind is rarely to be met with, and is a highly ornamental tree from its curious leaf and singular fruit.

Mr. Still presented some fine heads of the Endive, or curled Chiccory, *Cichorium Endivia*, 6 of which weighed 4 lb. 2 oz. and blanched in fine order for the table. He also presented some large carrots and blood beets.

Mr. Smith offered a lot of ripe Filberts, or European Hazlenuts, *Corylus avellanus*, raised at his nursery near Newark. These nuts much exceed in size our native wild hazlenuts, though we do not think greatly superior to them in flavor, and is probable that if our species was subjected to cultivation it would produce an important addition to our vegetable luxuries.

Mr. Hogg presented specimens of the edible Passion flower, *Passiflora edulis*, the fruit of which would furnish our tables with an agreeable esculent, as a desert, being of a pleasant acid taste.

Aug. 26. This being the anniversary of the Society, a meeting was held at 12 oclock, in Niblo's garden, for the election of officers for the ensuing year. The following is a list of the gentlemen elected:—

David Hosack, M. D. *President.*
John R. Murray, Jacob Lorillard, William Neilson, } *Vice Presidents.*
Abraham Halsey, *Corresponding Secretary.*
William R. Cooke, *Recording Secretary.*
John Groshen, *Treasurer,*

COUNCIL.

N. H. Carter,	Thomas Hogg,
John I. Palmer,	Geo. Newbould,
William Curr,	Wm. Neale,
Charles Henry Hall,	Charles Oakley,
Michael Floy,	William Wilson,
Israel Dean,	Oliver M. Lownds,
Andrew Clark,	G. W. Arnold,
Richard Hatfield,	Wm. Phelan,
Alexander Smith,	Gavin Yuill,
Francis Cooper,	Peter Hatrick,
Wm. Fairbairn,	Samuel L. Mitchell,
Wm. M. Ireland, M. D.	Peter Aymar,
Andrew Parmentier,	Isaac Adriance,
Michael Burnham,	James Mc Brair,
Thoman Kinnersly,	Edward Probyn,
Nicholas Saltus,	Wm. M. Price,
Wm. Seaman,	George Nixon,

The President on taking the chair delivered a short address, appropriate to the occasion, and confining himself to the condition and prospects of the Society. The principal topic to which the attention of the members was directed, was the establishment of a Botanic garden, the want of which is an opprobrium to our city. We hope that notwithstanding the disappointments which the society has experienced in their efforts to procure a spot of ground suited to that purpose, and which Dr. H. detailed at length, they will not relax, in their exertions to effect a purpose of such vital importance to themselves and the cause of Horticulture.

After the President's address, the Rev. Mr. Schroeder, the Society's orator for the day, pronounced the anniversary oration—an elegant and animated discourse, which was listened to with the highest gratification by the members, and a numerous audience of ladies and gentlemen: as the society intend to publish this discourse, it will be in our power in a future number to present to our readers a more particular account of it.

The annual exhibition of Fruit and Flowers, we are gratified to state, was rich beyond description; and notwithstanding the destructive frosts of last spring, was no way inferior to similar displays on for-

mer occasions. These luxuriant productions are a most agreeable evidence of the increasing attention which is bestowed on the cultivation of the soil; and we should remark as also worthy of congratulation to all friends of American horticulture, that with the single exception of the Pine apple, the fruits exhibited were all the naturalized or native products of our own soil, perfectly assimilated to our climate, and such as might be produced in any part of the country, without any great expense, and with the ordinary skill of the farmer's or gardener's profession.

In addition to the supply furnished by the Society, consisting of the ordinary fruits of the season, such as Melons, Apples, Pears, Plums, Peaches, &c. many of which were remarabkle for their size and delicacy, the exhibition was indebted to the contributions of several eminent horticulturalists residing in the city, or in neighboring places.

Jesse Buel, Esq. of Albany presented some Plums, of a seedling raised by himself; this variety, supposed to be new, from its great size, and flavor, promises to be an important addition to the different sorts of that fruit.

Herman Thorne, Esq. presented some Pine apples, full grown and fine flavored, which were raised at his residence a few miles from the city.

Several varieties of native grape were offered by Professor Gimbrede, of West Point, cultivated by himself: this gentleman has paid great attention to this subject, and is quite sanguine of his success in producing a wine grape from our own soil.

Fine nectarines from the garden of Mr. T. Ash.

Grapes, mostly chasselas and muscatel, cultivated and very large and perfect in all respects were received from Messrs. N. Saltus, B. Armitage, and Dr. Hosack.

Mr. Parmentier produced a quantity of strawberries, from his garden at Brooklyn—they were of the monthly Alpine sorts.

Mrs. Van Nortwick of New Jersey, sent some excellent peaches.

Some very fine Peaches were presented by Mr. Selby from Flushing, with specimens of Cherokee Plums.

J. Dennison, Esq. of Albany, presented some white Holland plums, and German gages, very superior.

The society also acknowledge the donation of Mrs. Griffith, of Brunswick, of currant wine which was acknowledged to be a delicious specimen of domestic manufacture. The grapes also received from that lady were of the finest description.

The flowers which were arrayed with the fruit were selections of the choicest of their kind from the gardens of members of the society. It is difficult to speak of this part of the exhibition without using hyperbolic language; we shall therefore only particularize a few of the most remarkable.

Mr. Thorburn's magnificent Amaryllis gigantea, v. Josephina, formed one of the most conspicuous ornaments in the room.

Mr. Floy contributed many rare and newly introduced plants, which we have not observed in any other collection; the Clarbia pulchella, of Pursh—a beautiful and delicate biennial for the first time flowering in our neighborhood; the Mimulus luteus, v. and M. Moschatus, the latter with its strong musky odor, perfumes the air in its vicinity.

The Olnothera Lindleyana, and O. Quadrivulnera, all of which are among the latest discovered plants from the Western and Northern parts of our country, and introduced recently by Mr. Douglass into England; elegant flowering specimens also of Nerium splendens, Jasminum grandiflora, Stapelia variegata, Plumbago capensis, Vinca rosea, &c.

An interesting specimen was exhibited by Mr. Floy, of a Pea, called *Bishop's early Pea*, not exceeding 6 inches in height, and in flower: seeds of this received by him from the London Horticultural Society, and sown the last week in May, produced seed the middle of July; the plant exhibited was the product of the crop sown the latter end of July. Mr. Floy observes that it is the earliest, most prolific, and most diminutive in size of any pea known.

Mr. Prince favored the society with some of the choicest ornaments of his magnificent garden at Flushing; among them the Erythrina crista galli, with its deep crimson blossoms, and the delicate Lagerstrœmia indica, were much admired.

Of rare exotics we noticed the Musa Sapientum, (Banana of India,) Caladium bicolor, Saccharum officinarom v. Striata, (sugar cane,) Arundo donax, Anona glabra in fruit, Zamia horrida, Salvia splendens, Solanum tuberosum, (native Chili potato,) the Salix babylonica, a specimen taken from the willow overshading the tomb of Napoleon at St. Helena, together with our gorgeous Lobelia cardinalis, Hibiscus moschentos, and several species of Phlox.

Mr. Wm. Phelan contributed a magnificent specimen of Campanula pyramidalis, one also of Volkameria japonica, of Nerium oleander, flore pleno, of Salvia splendens, and several very beautiful Cyclamers.

Mr. Parmentier's Roses were among the most prominent beauties of the exhibition; among the assortment presented, the most remarkable were the Tea scented rose, the Belle de monza, Belle Chinoise, Tendre Japanoise, Sanguine vanilla scented, and red flowered Florence.

Mr. Adlum's Catawba wine which was sent to the Society by Dr. Mitchell, was pronounced to be worthy of its good name; and no better test could be appealed to of the practicability of procuring a very delicious wine from the products of our own soil.

ART. 133.—*The Weevil in Wheat.*

The following remarks upon a subject of primary interest to our Farmers in all parts of the country we republish from the New-England Farmer, and join with the editor in expressing a hope if any remedy, other than what is here noticed, has been found availing, the discoverer will not fail to make it public.

The season for sowing wheat is near, and that section of the country, lying on the east shore of Lake Champlain, has been much troubled with the insect called the *Weevil*, a small brown insect, which eats into the kernel; and has partially, and in some cases wholly destroyed pieces of wheat. As we have not been troubled with them before this season, please Sir, inform through the medium of your paper, whether we shall be subject to them next season in consequence of having had them this, or whether seed wheat which has some of them in it would be more liable to them than old seed, which was raised before they came about, and any other information which you may know of them, which may be useful to those unacquainted with the insect, and oblige

Yours, with much respect,

HARVEY DEMING.

Salisbury, Vt. Aug. 26, 1828.

Remarks by the Editor.—We are happy to communicate all the information we can at present command on this subject; and hope it will attract the attention of those of our friends and correspondents who may be able to prescribe some remedy against the ravages of the insect.

The Weevil or Cornchaffer, *Curculio granarius*, is "a species of insects bearing a resemblance to oblong, soft worms. They are provided anteriorly with six scaly legs, and their head is likewise covered with scales. Some species of these larvæ are dreaded for the mischief they do in granaries; as they introduce themselves, while small, into grains of wheat, and there fix their abode. It is very difficult to discover them, for they lie concealed within the grain, grow slowly, and enlarge their habitation, in proportion to their size, at the expense of the interior meal, on which they feed.

Corn-lofts are frequently laid waste by these numerous insects, which devour immense quantities of grain. When the cornchaffer, after having consumed all the meal, has attained its full size, it remains within the grain, hides itself under the empty husk, and subsists alone; there it undergoes its transformation, and becomes a chrysalis; nor does it leave the grain, till a perfect insect, when it makes its way through the husk.

"The Society of Meaux in France has invited all those who may think proper to make use of the following very simple method of preserving grain from Weevils, and other insects, to communicate the result of those trials.

"Soak cloths, made of flax, in water, wring them and cover your heaps of grain with them; in two hours time you will find all the weevils upon the cloth, which must be carefully gathered up that none of the insects may escape, and then immersed in water to destroy them.—*Domestic Encyclopedia.*

M. Duhamel has observed that a considerable heat is necessary for hatching the eggs of the weevil, and that this insect cannot breed in granaries that are well ventilated. To prevent this he made repeated experiments, the results of which made it evident that this insect cannot multiply in grain that retains a proper degree of coolness, which it may be made to do by frequent ventilating. When grain is agitated in a sieve fine enough to retain it, the weevils contract their legs, and are, in that position, so much smaller than the grain, that they drop through the sieve.

The Farmer's Assistant observes that the weevil is "a little black bug, destructive to wheat, either in barns or granaries. On thrusting your hand into a bin of wheat infested with them, considerable warmth will be felt; but as they are usually collected together every part of the heap, or bin should be examined.

"There are various ways of keeping wheat clear of this insect, after it has been threshed out and put in bins. Mr. L. Hommedieu found that a sprinkling of lime with wheat infested with them in his bin soon drove them away. The lime can be afterwards winnowed out.

"Sulphur or snuff put up in little papers or bags, and properly distributed among the wheat in the bin, will keep them out, or drive them out when they have got possession.

"A plant of henbane has the same effect; and so have the leaves and wood of the Lombardy poplar. A bin made of the boards of this wood will never have a weevil in it.

"Take wet linen cloths, and lay them over a heap or bin of wheat, with weevils in it, and they will soon come out of the wheat and get upon the cloths: when by dipping these in water again, the insects are readily destroyed.

"They may also be sifted out of wheat, by a sieve, which will let them through and retain the wheat.

"It would seem that the readiest way to keep them out of mows of wheat, before threshing, would be to mix little pieces of Lombardy poplar every where through the mow in laying the sheaves away. Perhaps common salt is as offensive to this insect as to most others, and if so, to sprinkle some among the sheaves, when laying wheat down, might answer the double purpose of keeping out the weevil and improving the straw for fodder."

An article on the subject of the weevil, by N. & N. Nixon, first published in an Ohio paper, and republished in the New England Farmer, vol. iv. page 228, contains the following observations.

"The inquiry of almost every farmer is, 'How shall we preserve our wheat from the weevil.'—We answer, thrash it immediately, clean it from the the chaff, spread it in a barn or open room, and if it acquires the least warmth, stir it daily. We have now several thousand bushels of wheat on hand, which was thrashed from the shock and from the stack before the weevil commenced its ravages. It has been lying in garners near sixty days, and has been kept cool by frequent stirring: the weevil has not touched it, and we have no hesitation in saying, let their ravages be what they may in the stack, wheat thus cleaned and kept cool, will, in all cases be free from the flying weevil.

"We believe they are produced from an egg, which after being laid in the grain, requires a certain degree of heat to produce animation. That portion, which is produced by the straw in the stack, during the summer and fall, appears to be nature's choice. It is against that portion of heat we would have the farmers to guard, when we advise them to thresh and keep their wheat cool. Whether the egg is deposited in the field or the stack; we pretend not to say, but we have rather concluded in the latter; but we can with safety say that the wheat now on hand, which never went through the sweat, or which never attained that heat to which nearly all wheat in the stack is subject, whether it contains the egg or not, has produced no weevil; and that which we have recently received from the stack, ceases to hatch, or in anywise produce them as soon as we can get it perfectly cool.

"We advise those who would preserve their present crops to thresh and clean them immediately; and those who would hereafter effectually guard against the flying weevil, we advise to thresh from the shock, or before the wheat takes the sweat."

It is stated in an Ohio paper, that if in shocking wheat, elder leaves are strewed over each layer of sheaves that it will entirely secure the wheat against the ravages of the weevil: it is further stated, that if the wheat is threshed and cleaned and put into casks, and the surface of the wheat covered with elder leaves, it will likewise preserve it. The writer asserts that he has not only saved his own grain by these means, but that all his neighbors who have pursued the same course have been equally succeesful.

GARDENING.

The management of a garden, summarily speaking, consists in attention and application; the first should be of that useful and provident kind, as not only to do well in the present, but for the future; and the latter should be of that diligent nature as willingly "never to defer that till to-morrow, which may be done to-day." Procrastination is of serious consequence to gardening; and neglect of times and seasons will be fruitful of disappointment and complaint. It will often happen, indeed, that a gardener cannot do what he would; but if he does not do what he can, he will be most justly blamed, and perhaps censured by none more than by himself.

Weeding in time is a material thing in culture, and stirring the ground about plants, as also earthing up where necessary, must be attended to. Breaking the surface will keep the soil in health; for when it lies in a hard or bound state, enriching showers run off, and the salutary air cannot enter. Weeds exhaust the strength of the ground, and if they are suffered to seed and sow themselves, may be truly called GARDEN SINS. The hand and hoe are instruments for the purpose. Digging where the spade can go, between the rows of plants, is a good method of destroying weeds: and as it cuts off the straggling fibres of the roots, they strike afresh in numerous new shoots, and are thus strengthened. Deep hoeing is a good practice, as it gives a degree of fertility to the earth.

N. E. Farmer.

Cheese.—Several reasons being suggested for cheese being sometimes poisonous: Another has occurred to the writer, from observing a number of thirsty cows drinking the "green mantle of the standing pool," in a pasture, for want of pure water.—*N. E. Palladium.*

Remedy for Whooping Cough.—The following has been recommended for this complaint, which is now very common:—Take equal portions of new milk and the lye strained from the ashes of hickory [white walnut] bark, of which one table spoonful may be given every hour through the day to a child seven years old.

MISCELLANY.

New-Zealand Spinage, (Tetragonia expansa.)

This most delightful vegetable which has only within a few years been introduced among us, forms an important addition to our culinary herbs, and is remarkable for the luxuriance with which it grows in our climate. In the garden of Mr. Wilson at Rose Hill, a single plant, the produce of one seed, covers an area of 4 feet in extent, and abounds with large, tender, succulent leaves, affording one of the most delicate greens for the table of any of the spinaceous plants. It has the further advantage over other spinage of maintaining its succulence and verdure the whole summer; and crops may be frequently taken during the season from the same root. No kitchen garden ought to be without a supply of it; and as it readily produces seed, a few plants would be sufficient to stock a whole neighborhood.

Seed for sowing.—No part of the farmer's or gardener's business ought to be more carefully attended to than the procuring of proper seed; the failure of crops in quantity or quality, is as frequently to be attributed to neglect of this precaution, as to any other cause. We recommend the judicious advice on this head, given in a little work, entitled "The New-York Gardener," by P. Agricola, an excellent little manual replete with sound maxims and useful information.

"If the seeds of plants are in many particulars like bird's eggs, you will see the necessity and importance of always selecting the best and most perfect of their kind for seeding. As you would certainly choose the finest animals for breeders, so let your vegetable stock spring from the soundest and best seed; for it is not sufficient that your seeds *come up*; they should *come* strong and vigorous, if you would have them grow with luxuriance.

"Every year endeavour to improve your seed. Most of our cultivated plants are found to degenerate, notwithstanding all the care we can bestow upon them, unless their seeds are frequently changed. This fact has been long noticed, although the true cause may not yet be known.

"And we are also unable to say from what part of the world they should be brought, to produce the greatest crop. It is, however, generally found, that in all cases when you desire a great weight of roots or foliage, as beets, potatoes, cabbage, lettuce, etc., it is best to procure seed from a southerly climate.

"Whenever you use seed brought from a distance, let it be planted separate from any other of the kind, and note down all the particulars relative to it, that you may learn whether it is truly an improvement or otherwise. Much care is also requisite to prevent a deterioration of your seeds. Whenever you would raise seed from plants of which there are different species, do not set them within fifty feet of each other.

"This precaution is particularly necessary, whenever you would raise seed from any of the brassica tribe. This family has more branches, or varieties, than almost any other.

From the drum-head cabbage to the humble turnip, there are many grades, all of which have such seminal relation, that if permitted to flower in the neighborhood of each other, an admixture of pollen, and consequent adulteration, is certain to ensue.

"The varieties of the gourd family are also very numerous, and when you intend to preserve the seed of any of them in purity, or aim at improvement, plant them in separate and distant sections of the garden. In particular, the cucumber and melon should never grow together. They have each their peculiar excellence, which is materially injured by an union. So all the varieties of pumpkins and squashes are spoiled by an intermarriage.

And in like manner, all the kinds of Indian corn will mix their qualities, if they grow within four or five rods of each other. Your sweet corn will be quite ruined, if only a few stalks of the hard kind are permitted to grow near it, and what is singular, the sweet corn alone will suffer from the adulteration, the grains of which immediately lose their soft, rich and saccharine quality while the other appears not in the least affected. Your seed corn should always be gathered before the frost. Search for such stalks as bear two or more ears, and take the largest of them for seed. Let them immediately be trussed up, and suspended in some dry place, secure from rats and mice. Here it should remain until wanted for use. When shelled from the cob, reject the grains that grow upon each end. These hints should never be neglected, nor should you plant seed corn that is more than a year old, if new can be obtained.

A cure for the Ague and Fever, that has never failed in five hundred cases.—Half an oz. of cloves, half an oz. of cream tartar, 1 oz. of Peruvian bark, well pulverized. Put them into a bottle of best port wine, and take the decoction or tincture on the well days as fast as the stomach will receive it. As there are more persons afflicted with the fever and ague than at any former period, (in the opinion of many of the faculty,) the publication of the above recipe may be the means of curing many who now labor under that disorder.

[*From the American Farmer.*]

GRUBS IN HORSES.

Halifax, N. C. Aug. 27, 1828.

Mr. Skinner,

I saw an article in your paper some days since, requesting information on the subject of grubs or botts in horses. Always fond of that animal, their diseases have been, with me, a study, and there are few complaints to which he is subject that I cannot cure with certainty; the grubs I never fail to relieve in five minutes.

My father who spent much of his long and active life on the road, assured me often that *blood* was an infallible remedy for the grubs, which he had used in a number of instances with invariable success.

The method of feed ng on green oats is equally effectual in carrying them off; the quantity which a horse will thus discharge is a most incredible. I am not willing my name should appear to an article in the paper, but am willing you should give it to any gentleman who may apply.

Permit me to add, that any disease which is fatal to horses on which you wish information, it will give me pleasure to afford you. As I consider your paper one of the most useful ever established in our country, I think it merits my assistance and encouragement.

I am, sir, most respectfully, yours, D.

Remedy for Grubs in Horses.

All the symptoms of colic and grubs in horses are the same; and unless a horse swells, no one can discern the difference. It would be well therefore, to commence for the grubs, as the more fatal and dangerous disease—add to which, the remedy here recommended, is an alleviation, if not a cure for the colic, and in a slight attack would relieve immediately. So soon as a horse shows symptoms of uneasiness, such as groaning, looking back towards his sides, lying down, etc., he should be bled in the neck; which being caught in bottles, should be immediately poured down the horse. The bottles, while held to receive the blood, may be immersed in hot water, to prevent coagulation and to keep it in a warm and liquid state; the horse should be made to swallow from three quarts to a gallon. I never yet knew this fail to give relief in five minutes; this is asserted on an experience of thirty years.

Its operation is thus accounted for; the grubs from some cause, having abandoned their usual food, seize upon the stomach, and when the warm blood thus thrown in reaches them, they immediately loose their hold to feed on it; so that instant relief follows. The bleeding has a tendency to allay any fever caused by the attack, and if a sufficient quantity is given it will act as a purgative and carry them off.

It is not an uncommon thing for grubs to attack a horse soon after he is relieved from the colic.—They are disturbed either by the disease or the means used to cure. When once roused to action, they never fail to seize on the most vital and dangerous part. It would therefore be well, in all cases of either colic or grubs, to give an active purge after the horse is relieved from pain; as when loose, they are easily carried off with the medicine, but when attached to the stomach, nothing that would leave life in the horse could force them to quit their hold. This may be demonstrated by attempting to detach them from the stomach of a dead horse. The grub is surely produced from the nit; is frequently seen on horses, which only requires heat and moisture to hatch; thus, if slightly moisten d, and the breath blown on it with the hand partly closed, it will in a few moment produce a most active little worm; which if he gets in the mouth, is as well calculated to travel down the throat, as he is afterwards to produce the most fatal effects.

A few weeks feeding on green oats, or corn cut up, stalk, ear and all, will generally carry off most of the grubs that may be in a horse; at least they will thus get rid of large quantities, which must surely lessen the danger. It is vain to endeavour to destroy them; what would kill a horse in fifteen minutes, would not affect them, or if it would, the remedy would be as bad as the disease.

English method of curing Beef and Pork.---The following method was for many years successfully practised by an eminent curer of Provisions in London, both for exportation and home consumption.

"To 112 pounds, (1 cwt.) of Beef or Pork, take 10 pounds of common salt, and 1-2 pound of salt-petre. Let the meat be well cleaned from those particles of blood which will hang about it when cut into four pound pieces; this is best done by washing it in salt and water, or any weak offal pickle, provided it be sweet. Lay the meat in rows, and rub the upper side moderately with salt, then lay another layer of meat, and repeat the operation as on the first layer; in this manner continue the same proportion of salt and salt-petre, till you have the quantity you wish to cure, all heaped up in a tub, or some other vessel (not of lead) in order to preserve the pickle from issuing from it. In this state it must remain for three days, then turn it into another tub, sprinkling it with salt as you turn it; when all is turned, let the pickle procured by the first salting, be gently poured about the meat. In this state let it remain for a week, and it will be excellent for home use.

Should it be wanted for exportation, pack it in this state, into such casks as your order may express. But as the greatest care for its keeping good abroad, consists in the packing, you must first put a layer of salt in the barrel, then a layer of meat packed very close, (with your hands only) and in this manner the cask must be filled up. When headed you must carefully filter the pickle through a coarse cloth, (not boil it) and when perfectly fine, fill up the cask by the bung-hole. In this state let it remain till the next day, in order to observe whether the cask be tight or not, then bung it up. The too great rubbing of meat will not keep it the better, it frequently retards the operation of the salt by filling the outward pores of the meat only to the destruction of the middle of the piece, which frequently perishes."

English method of curing Bacon.—The sides or flitches are to be laid in a wooden trough and sprinkled all over with bay salt; in which state they are left for twenty-four hours to drain away the blood, and the superfluous juices. After this they must be taken out, wiped very dry, and the drainings thrown away; next some fresh bay salt, well heated in a large iron frying pan, is to be rubbed over the meat, until it has absorbed a sufficiency of moisture; this friction is to be repeated four successive days, while the meat is only to be turned every other day. If the flitches are large they should be kept in brine for three weeks, and during this period, turned ten times, then taken out and thoroughly dried, either in the chimney corner, (as the practice is often in the country) in a bake-house, or in a drying house, where a straw, or half-smothered wood, fire is kept up.

Observation. To give bacon that agreeable flavour which distinguishes the produce of certain counties, the hair of the animal must not be scalded and scraped off, but must be burned or singed, by applying under it, a fire of straw just sufficient to remove the bristles.

German mode of curing Hams.—In Westphalia, Hams are cured between November and March. The Germans pile them up in deep tubs, covering them with layers of salt, saltpetre, and a small qnantity of bay-leaves. In this situation they let them remain about four or five days, when they make a strong pickle of salt and water, with which they cover them completely; and at the expiration of three weeks they take them out of pickle, soak them twelve hours in clean well-water, and hang them up for three weeks longer in a smoke made from the *Juniper bushes* which in that country are met with in great quantities.

American Wine.—"I put a quantity of the comb, from which Honey had been drained, into a tub, and added a barrel of cider, immediately from the press; this mixture was well stirred, and left for one night. It was then strained before fermentation took place; and Honey was added, until the specific gravity of the liquor was sufficient to bear an egg. It was then put into a barrel: and after the fermentation commenced, the cask was filled every day, for three or four days, that the froth might work out of the bung-hole. When the fermentation moderated, I put the bung in loosely, lest stopping it tight might cause the cask to burst. At the end of five or six weeks, the liquor was drawn off into a tub; and the whites of eight eggs, well beaten up, with a pint of clean sand, were put into it: I then added a gallon of cider spirit; and after mixing the whole together, I returned it into the cask, which was well cleaned, bunged tight, and placed in a proper situation for racking off, when fine. In the month of April following, I drew it off into kegs for use; and found it equal to almost any foreign Wine: in the opinion of many judges, it was superior.

Observations. This success has induced me to repeat the experiment for three years; and I am persuaded, that by using clean honey instead of the comb, as above described, such an improvement might be made, as would enable the citizens of the United States to supply themselves with a truly *federal* and wholesome wine, which would not cost a quarter of a dollar, per. gallon, were all the ingredients procured at the market price. It would have this peculiar advantage, that it contains no foreign mixture, but is made from ingredients produced on our own farms."—*J. Cooper.*

Horn distemper, or horn ail.—A disorder incident to horned cattle, by which the internal substance of the horn, (commonly called the *pith*, which is the spongy part of the bone,) wastes away, etc. This disorder may be known by a dulness in the countenance, a sluggish motion, want of appetite, a desire to lie down frequently, shaking the head and appearing dizzy, etc. To be sure of the disease, take a small gimblet and perforate the horn two or three inches above the head: if it is hollow, and no blood follows, it is the hollow horn: this distemper is generally brought on by poverty in food, etc.

Recipe.—Bore each horn at the upper and lower side, that the drain may have vent, and administer at least two or three doses of salts or some gentle purgative; inject into the horn strong vinegar and camphorated spirits or salt and vinegar: this will cleanse the horn and effect a cure. Sawing off the horn is sometimes performed, but the above recipe is preferable.

The Cow Cabbage.---The following account of this extraordinary vegetable is extracted from the *Gardener's Magazine.*

"I enclose a few seeds of an aborescent cabbage, introduced from La Vendee, by the celebrated Comte de Puisaye, which promises to be an important acquisition to agriculture. I have seen it growing in the garden of my friend, Admiral Brooking, here, to the height of eight feet. In La Vendee, I am told, it attains an altitude of from twelve to fifteen or even more feet. Being a native of a warmer climate, it should be planted in a warm and sheltered situation; sixty plants are said to afford sufficient provender for a cow for a year, and as the side shoots only are used, it lasts four years without fresh planting. A square of 60 feet will contain 246 plants, four feet apart, or 16 more than four cows require for year's provender, without the aid of other food.

"W. Hamilton, Oxford Place, Plymouth."

Milch cows should be well kept.—The keeping of cows in such manner as to make them give the greatest quantity of milk, and with the greatest clear profit, is an essential point of economy. Give a cow half a bushel of turnips, carrots, or other good roots per day, during the six winter months, besides her hay; and if her summer feed is such as it should be, she will give nearly double the quantity of milk she would afford if only kept during the winter in the usual manner, and the milk will be richer and of better quality.

The carrots or other roots, at nineteen cents per bushel, amount to about eighteen dollars. The addition of milk, allowing it to be only three quarts a day for three hundred days at three cents per quart, amounts to twenty-seven dollars. It should he remembered too, that when cows are fed with roots they consume less hay, and are less liable to several diseases which are usually the effects of poor keeping.—*Farmer's Assistant.*

On Cows going dry too soon.---If at any time a good milch cow should go dry before her milk is gone, get a young calf, and put it to her, in order to preserve her milk against another year; for it is well known, if a cow goes dry one year, nature will lose its power of acting in future.

Substitute for ringing Swine.---To prevent swine from digging in the soil, the best method is to cut the two tendons of their snouts with a sharp knife, about an inch and a half from the nose. This may be done with little pain, and no prejudice to the animal, when about three months old. Common practice of restraining them by rings fixed in the snout is painful and troublesome;---they must be replaced as often as they give way, and that happens so frequently, that rings afford but little security against the nuisance.---*London.*

Fattening Cattle.—The grand object is to fatten quickly. An animal when in a state of rearing may be considered as a vessel open at both ends, in which the supply and the waste being nearly equal, it can never be filled: fattening an animal may be considered as an attempt to fill the vessel, and which can only be done, by excess of supply: the waste being the same as before, this excess must be great; if it is not so, the vessel may be rendered fuller than before without ever becoming full. An important hint might be taken from this simile by many farmers who know little of the difference between feeding and fattening. We have known cattle, sheep, and swine kept for months, and fed, with a view to fattening them, without their gaining a pound of meat.

When peas, French beans, and similar productions, do not boil easily, it has usually been imputed to the coldness of the season, or to the rains. It is stated in *The Bulletin des Sciences* that this popular notion is erroneous—the difficulty in boiling them soft arising from a superabundant quantity of gypsum imbibed during their growth. To correct this, we are told to throw a small quantity of subcarbonate of soda into the pot along with them, the carbonic acid of which will seize upon the lime in the gypsum, and free the legumes from its influence.

A patent has been taken out for a machine called the "Universal Drub," for threshing, or separating, by rubbing, the seed or kernel of all kinds of grain from the straw; by Samson Felton, Kilbuck township, Holmes county, Ohio.

The grain is placed upon an apron, and is carried between a cylinder, and a case where the seed is rubbed out. The cylinder is of metal, punched from the inside, like a grater. The case is perforated with holes through which the seed passes, whilst the straw is carried off and delivered from another part of the machine.

ERRATUM.—In page 184, twenty-second line from the top, the words "and New-York Garden," should be inserted after "Charleston Public Garden."